

REMARKS

The July 15, 2003 Office Action has been carefully considered. The period for response has been extended two months to December 15, 2003 by concurrently filed petition. The claim amendments above and the following comments are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance. Specifically, independent claims 16, 27 and 38 have been amended to more clearly distinguish over the combinations of documents applied in the latest art rejections. Claims 16-50 are pending and should now be patentable over the art, for reasons discussed below. Prompt favorable reconsideration of the amended application is solicited.

The Latest Art Rejections

Claims 16, 20-27, 31-38 and 42-50 stand rejected as unpatentable over US patent no. 5,166,951 to Schilling (hereinafter the Schilling '951 patent) in view of Kato et al. (6,122,295). The Schilling '951 patent discloses a spread-spectrum data transmission technique, in which data at a transmitter is demultiplexed into sub-data-sequence signals. Each sub-data-sequence signal is spread-spectrum processed into a spread-spectrum signal. These spread-spectrum signals are then combined with each other and with a chip-code signal and sent over a common communications channel. The Examiner acknowledges that the Schilling '951 patent does not teach adding a header-symbol-sequence signal that is spread-spectrum processed with a chip-sequence signal.

The Kato et al. patent discloses a technique for a code division multiplexed data transmission, in which data at a transmit data signal is demultiplexed (at 101) into several data signals. Each separate data signal is multiplied by a code (PN1 to PNn) from generator 104. At least selected ones of the code processed signals are then combined with each other by adder 107

and sent over a radio communications channel. The Examiner cited the preamble transmissions shown in the flow charts of Figs. 7 and 8 and the text from column 6, line 53 to column 7, line 27 for an alleged disclosure of header transmission. It appears that the PN0 code is transmitted for some 'preamble' time period prior to transmission of the combined signal containing the code processed data. The Examiner apparently interprets the leading transmission of the PN0 code as a "header" and assumes that this header is sufficient to meet the "header" claim requirements from the previous versions of the claims.

Claims 17-19, 28-30 and 39-41 stand rejected as unpatentable over Schilling '951 in view of Kato et al., further in combination with U.S. patent No. 5,260,967 to Schilling (hereinafter the '967 patent) and U.S. patent No. 5,619,526 to Kim (hereinafter the '256 patent). The Examiner cited the Schilling '967 patent and the Kim '256 patent in support of an assertion that it would be obvious to add means for encoding, scrambling or encrypting, but now to his new basic combination of Schilling '951 and Kato et al.

It is respectfully submitted that the combinations of documents in the art rejections do not actually teach the subject matter of the amended claims.

Patentability of the Amended Claims

Each of the independent claims (16, 27 and 38) has been amended to indicate that the header-symbol-sequence signal comprises **a predefined sequence of symbols**, and to indicate that this header-symbol sequence signal is spread-spectrum processed with a chip-sequence signal to form the header. Both combinations of references relied on the Kato et al. patent for an alleged disclosure of a header. It is respectfully submitted that Kato et al. does not teach adding a header of the type now specified by the independent claims, and as a result, the combinations do not render any of the pending claims obvious or unpatentable.

The header of Kato et al. is usually not demodulated, as shown in Fig. 2 of the Kato et al. patent. In that embodiment, the PN0 code is supplied directly to the adder 107, and the PN0 code is not used to spread-spectrum process a header-symbol-signal comprising a predefined sequence of symbols. However, the Kato et al. header may be modulated by something called a multiple number (a variable number) in another embodiment (see Column 6, line 35-44) as control data. Such variable number data is not a predefined sequence of symbols. In either case, the Kato et al. header is different from the header in the amended claims. In one case the header has no sequence of symbols spread-spectrum processed by the chip sequence signal. In the other case, the header is a variable number modulated as control data, not a predefined sequence of symbols. Neither example of a header comprises a header-symbol-sequence signal **comprising a predefined sequence of symbols**, which is spread-spectrum processed with a chip-sequence signal.

As disclosed in this case, the header-symbol-sequence signal is a predefined sequence of symbols known by both the transmitter and receiver, and the chip-sequence signal is common to all users. Because of this design, the header provides NOT ONLY timing and demodulation reference purpose, BUT ALSO synchronization. The amended claim recitation of a header-symbol-sequence signal comprising a predefined sequence of symbols, spread-spectrum processed with a chip-sequence signal distinguishes the claims over the applied art. Since the alleged teaching of a header by Kato et al. does not suggest the specific header structure claimed, neither combination of patents proposed in the rejections meets this requirement of the independent claims. Since the combinations do not meet the claim limitations, the combinations do not render any of the claims as a whole unpatentable in the sense of 35 U.S.C. § 103.

Conclusions


Pending claims 16-50 should be allowable over the art. It is respectfully submitted that this case should be in condition for allowance. Prompt favorable reconsideration and issuance of a notice of allowability of all of the pending claims are earnestly solicited.

It is believed that this response addresses all issues raised in the July 15, 2003 Office Action. However, if any further issue should arise that may be addressed in an interview or obviated by an Examiner's amendment, it is requested that the Examiner telephone Applicants' representative at the number shown below.

To the extent necessary, if any, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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